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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,059	07/11/2003	Brian J. Schwartz	EH-10937 (03-358)	4332
34704	7590	08/18/2005	EXAMINER	
BACHMAN & LAPOINTE, P.C.			SHAKERI, HADI	
900 CHAPEL STREET			ART UNIT	
SUITE 1201			PAPER NUMBER	
NEW HAVEN, CT 06510			3723	

DATE MAILED: 08/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/618,059

Applicant(s)

SCHWARTZ ET AL.

Examiner

Hadi Shakeri

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 120604.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_.

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## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 9 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Claim 9 recites for the coolant nozzle of claim 1 to be in combination of a machining tool making the claim improper. If applicant wishes to further limit the nozzle, claim 9 should be amended to recite the nozzle of claim 1 further comprising...

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 16-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Regarding claim 16, the phrase "at least one coolant outlet discharging a plurality of liquid coolant outlet steams" renders the claim indefinite because it is unclear how the embodiments for one coolant outlet discharges a plurality of streams?

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

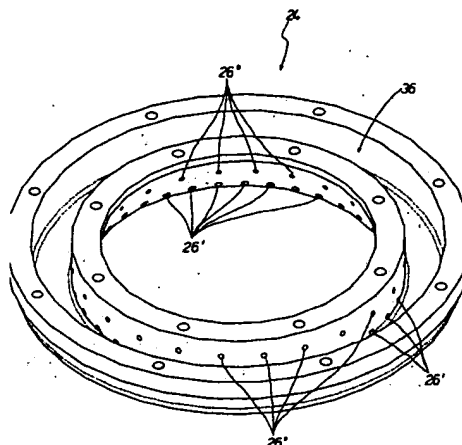
A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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6. Claims 10-15 are rejected under 35 U.S.C. 102(e) as being anticipated by DE 202 16 396.

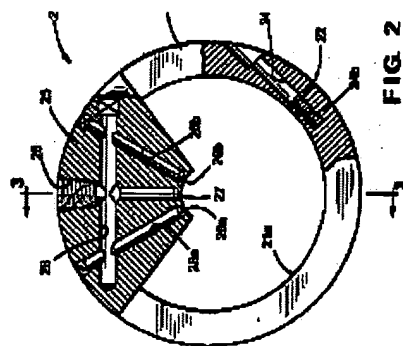
DE '396 discloses all of the limitations of claim 10, i.e., a coolant nozzle having at least one coolant inlet (24); a plurality of coolant outlet (26', 26'') oriented to discharge coolant obliquely (Fig. 11) arranged with circumferential spacing of no more than 72 degrees for each "adjacent" two outlets, wherein the nozzle further includes one or more passageways (36) defined by internal surface portions between the inlet and the outlet.



Regarding claims 11-15, DE '396 meets the limitations, i.e., common radial position at unique angle; not more coolant outlet than the one circumferentially positioned; 360 degrees.

7. Claims 10-12, 14-16, 20 and 21 (as best understood) are rejected under 35 U.S.C. 102(e) as being anticipated by Reitmeyer (6,471,573).

Reitmeyer discloses all of the limitations of claims 10, 16 and 20, i.e., a coolant nozzle having at least one coolant inlet (26); a plurality of coolant outlet (27, 29a, 9b) oriented to discharge coolant obliquely (Fig. 3) arranged with circumferential spacing of no more than 72 degrees for each "adjacent" two outlets, i.e., 28a-27 and 27-28b, wherein the nozzle further includes one or more passageways (28) defined by internal surface portions between the inlet and the outlet.



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Regarding claims 11, 12, 14-16 and 22, Reitmeyer meets the limitations, i.e., common radial position at unique angle; not more coolant outlet than the one circumferentially positioned; angled outlet (Fig. 3); wherein more than one outlet is provided, thus workpiece blocking one, would still be covered by others; wherein the bit is elongated superabrasive.

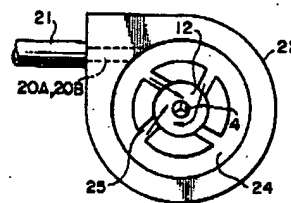
### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-22 (as best understood) are rejected under 35 U.S.C. 103(a) as being unpatentable over Arai et al. in view of Perkins et al. (4,252,768).

Arai et al. meets all of the limitations of claims 1, 16 and 20, except for the type of material used for the nozzle, the spacing between the outlets, type of marching tool (quill vs. drill bit).



Although, Choice of material is considered to be an obvious modification, Perkins et al. is cited which disclosed using sintered ceramic nozzle for its desired properties (03:35-43). It is also noted that method of forming an article not resulting in a structural difference is not germane to the issue of patentability. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Arai et al by using sintered ceramic as taught by Perkins et al. for its desired properties, e.g., durable, light...

Regarding the number of outlets, and the size, Arai et al. indicates in col. 6, line 43 that the size and number of the apertures are not limited to the embodiments shown and can be set at desired values, and the size of the opening (12) obviously depends on the size of the tool. It

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would have been obvious to one having ordinary skill in the art at the time the invention was made to have five passages and/or have opening of less than 3 cm, since it has been held that changing shape, dependent on work-piece parameters, involves only routine skill in the art. *In re Stevens*, 101 US PQ 284(CCPA1954).

Regarding claim 16, the narrative language, i.e., "discharging a plurality of...impacting obliquely..." lacking any structural limitations for the nozzle, e.g., "oriented to" is considered met. With regards to combination with a quill, and known quill having hemispherical head, the nozzle of Arai et al. in view of Perkins et al. is capable of being used in combination with a quill, thus the combination is considered obvious to one of ordinary skill in the art, depending on the workpiece and/or operational parameters.

Arai et al. in view of Perkins et al. and further modified in view of choice of material, combination with known tools, number and size of outlets meets all the limitations of claims 2-9, 11-15, 17-19, 21 and 22.

10. Claims 13, 17, 19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reitmeyer.

Reitmeyer meets all of the limitations of above claims, except for the number of outlets, the size and the combination with bit having a doubly convex head, i.e., hemispherical, all obvious modifications to one of ordinary skill in the art depending on the intended use and/or workpiece parameters.

11. Claims 1-9, 18, 15, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reitmeyer in view of Perkins et al.

Reitmeyer in view of Perkins et al., modification in light of choice of material used, as indicated above in section 8, meets the limitations.

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12. Claims 1-9 and 16-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE '396 in view of Perkins et al.

DE '396 in view of Perkins et al. further modified in light of combination with known tools, depending on the intended use, as indicated above meets all the limitations.

### ***Response to Argument***

13. Applicant's arguments filed 06/03/05 have been fully considered but they are not persuasive. The argument that Reitmeyer fails to meet the limitation of circumferential spacing of no more than 72 degrees is not persuasive. The claim recite for each two adjacent outlets to be no more than 72 degrees, which is met by, e.g., 28b and 27, and because outlets 28a and 28b are not considered "two adjacent".

The argument that quill is not disclosed is not persuasive. Reitmeyer discloses a tool 12, meeting all the limitations of a "quill" with regards to claim 21. Regarding claim 22, even though hemispherical, may be inherent in the tool (since the end is not shown, and convex ends are common), Reitmeyer is not applied under anticipation, however, as disclosed, the tool may be embodied as any other type of tool (02:60), and using a coolant nozzle with a quill is not novel.

The argument that somehow, the pressure foot of Arai does not meet the a coolant nozzle, fails to indicate what limitations are not met. The pressure foot of Arai is used as a coolant nozzle by cooling the tool. The argument that Perkins discloses a sandblasting nozzle and cannot be combined with the pressure foot of Arai and that there is no motive, is not persuasive. Arai's nozzle is modified in view of choice of material. Using sintered ceramic for a nozzle, is taught by Perkins, applying it to a coolant nozzle for its desired properties, e.g., light, durable, strong, is considered modification well within the knowledge of one of ordinary skill in the art.

The argument about the method of forming the nozzle is not persuasive. Applicant argues that the "nozzle" is of single unitary structure, and that this unitary structure, of course excludes other components such as fittings, fasteners and the like. And further argues Perkins only teaches using ceramic for the core and thus teaches away from using ceramic for a single unitary structure of nozzle. This is not found persuasive, because the teaching of Perkins is for the use of ceramic for its properties as applied, e.g., to claim 1. With regards to claim 2, the method of forming the device is not germane to the issue of patentability of the device itself. Perkins is not utilized to reject claim 2 with regards to the method of forming.

The argument regarding claim 5 is not persuasive, since figure 1 clearly shows streams directed towards the axis of the bit.

The argument regarding claim 15 is not persuasive, since Arai discloses more than one nozzle around the bit (a rotating bit) and the argument that Arai has different purpose fails to indicate what limitations are not met.

The argument that modification with regards to number of outlets, the size and the combination with a quill is all hindsight is not persuasive. These modifications are all considered well within the knowledge of one of ordinary skill in the art depended on workpiece and/or operational parameters. Changing the number of a prior art patent, e.g., from 3 to 5 is not considered novel and one, which would require undue experiments.

14. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the



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applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

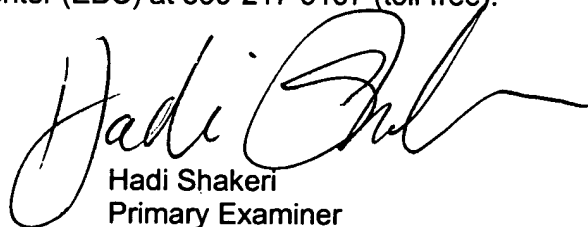
15. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, using ceramic for its desired properties is the motive, since Perkins teaches the use of ceramic in nozzles, where, e.g., high strength is required.

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hadi Shakeri whose telephone number is 571-272-4495. The examiner can normally be reached on Monday-Thursday.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Hadi Shakeri  
Primary Examiner  
Art Unit 3723  
August 16, 2005